

**Commonwealth of Kentucky
Division for Air Quality**

PERMIT APPLICATION SUMMARY FORM

(For all sources except PSD and true minor sources)

Completed by:
KUMAR POLE, P.E.

GENERAL INFORMATION:

Name:	Calgon Carbon Corporation
Address:	U.S. Route 23, Catlettsburg, Kentucky 41129
Date application received:	December 16, 1996
SIC/Source description:	2819
AFS(10-digit) Plant ID:	21-019-00014
EIS #:	103-0340-0014
Application log number:	E983, F864, G494
Permit number:	V-00-015

APPLICATION TYPE/PERMIT ACTIVITY:

<input checked="" type="checkbox"/> Initial issuance	<input type="checkbox"/> General permit
<input type="checkbox"/> Permit modification	<input type="checkbox"/> Conditional major
__Administrative	<input checked="" type="checkbox"/> Title V
__Minor	<input checked="" type="checkbox"/> Synthetic minor
__Significant	<input type="checkbox"/> Operating
<input type="checkbox"/> Permit renewal	<input checked="" type="checkbox"/> Construction/operating

COMPLIANCE SUMMARY:

<input type="checkbox"/> Source is out of compliance	<input type="checkbox"/> Compliance schedule included
<input checked="" type="checkbox"/> Compliance certification signed	

APPLICABLE REQUIREMENTS LIST:

<input type="checkbox"/> NSR	<input type="checkbox"/> NSPS	<input checked="" type="checkbox"/> SIP
<input type="checkbox"/> PSD	<input checked="" type="checkbox"/> NESHAPS	<input type="checkbox"/> Other
<input type="checkbox"/> Netted out of PSD/NSR	<input checked="" type="checkbox"/> Not major modification per 401 KAR 51:017, 1(23)(b) or 51:052,1(14)(b)	

MISCELLANEOUS:

☐ Acid rain source

☐ Source subject to 112(r)

☐ Source applied for federally enforceable emissions cap

☐ Source provided terms for alternative operating scenarios

☐ Source subject to a MACT standard

☐ Source requested case-by-case 112(g) or (j) determination

☐ Application proposes new control technology

☒ Certified by responsible official

☒ Diagrams or drawings included

☐ Confidential business information (CBI) submitted in application

☐ Pollution Prevention Measures

☐ Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

POLLUTANT	ACTUAL (TPY)	POTENTIAL (TPY)
PM/PM ₁₀	896.542	896.542
SO ₂	821.903	821.903
NO _x	204.108	204.108
CO	71.306	71.306
VOC	11.388	11.388
LEAD	0.000	0.000
HAP \geq 10 tpy (by CAS)	0.000	0.000

SOURCE PROCESS DESCRIPTION:

Calgon Carbon Corporation operates a primary activated carbon and recycle carbon regeneration plant in Catlettsburg, Kentucky. Activated carbon is produced from high grade bituminous coal. Coal is received and stored in silos, ground to fine powder, mixed with pitch, and pelletized to form a briquette. This briquette is crushed and screened and the carbon is baked to remove volatiles in kilns. After baking the carbon is 'activated' in furnaces. The activated carbon is then cooled and transferred to screening and packaging operations. The plant also produces several speciality products including acid washed carbon, fine carbon, and impregnated carbon products.

Fine carbon is produced using a roll mill and screens while the acid-washed carbon is produced by washing sized carbon with a hydrogen chloride solution. This process removes ash and iron making the carbon suitable for food-grade applications. Residual acid from the process is neutralized with soda ash and the carbon is dried in a direct-fired kiln.

The carbon regeneration plant received spent carbon from end-users of activated carbon and desorbs the adsorbed materials, thereby regenerating the carbon for reuse. This plant consists of spent carbon storage vessels, washers to remove sand, dewatering steps, and a nine-hearth reactivation furnace. The top two hearths of the furnace serve as an afterburner that discharges into a spray dryer scrubber. Sodium carbonate is used in the spray dryer to remove acidic gases, primarily hydrogen chloride and sulfur dioxide. Final particle collection is performed by a fabric filter.

EMISSION AND OPERATING CAPS DESCRIPTION:

The following emission points that were permitted in the past are subject to federally-enforceable synthetic minor limits:

Emission Point	Description	Pollutant	Synthetic Minor Limit (tpy)
09	B-Line Coal & Pitch Preparation Area	PM/PM ₁₀	3.29
11	B-Line Bakers	PM/PM ₁₀	21.46
		SO ₂	39.00
24	Package Boiler	PM/PM ₁₀	0.3441 lb/mmBTU
25	Acid Wash Transfer & Packaging System	PM/PM ₁₀	5.26
26	Acid Wash Process	PM/PM ₁₀	7.88
29	D-Line Coal & Pitch Preparation Area	PM/PM ₁₀	61.06
31	D-Line Bakers	SO ₂	65.7
34	D-Line Activator Furnaces	PM/PM ₁₀	65.7
		SO ₂	65.7
37	E-Line Coal & Pitch Preparation Area	PM/PM ₁₀	61.06
42	E-Line Activator Furnaces	PM/PM ₁₀	60.88
43	E-Line Packaging Operations	PM/PM ₁₀	49.39
45	Reactivation Furnace	PM/PM ₁₀	7.01
		SO ₂	21.04
		VOC	1.80
		NO _x	26.90
50	Pulverizer Collection System	PM/PM ₁₀	35.95
52	Activated Carbon Fine Mesh Production	PM/PM ₁₀	12.42
53	Reactivation Process for Custom Product	PM/PM ₁₀	2.48

Each of the emission points listed above that is a source of particulate emissions is also subject to particulate matter standards under state ‘*process operations*’ regulations (401 KAR 59:010 for sources constructed after July 2, 1975 and 61:020 for sources constructed prior to July 2, 1975). These regulations prescribe hourly particulate matter limits based on the ‘*process weight rate*’.

In some instances, when the emission points listed in the table above were permitted as synthetic

minor sources, the annual synthetic minor limit was pro-rated to an hourly limit that supplanted the hourly limit prescribed by 59:010 or 61:020. In other instances, the synthetic minor limit was not pro-rated to an hourly standard.

With this permit action, all previous synthetic minor limits have been carried over as annual limits only. In those instances where the synthetic minor limit was pro-rated to an hourly standard, the synthetic minor hourly limit has been replaced with the particulate matter limit prescribed by 59:010 or 61:020. This was done to ensure consistency within the Title V permit.